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Foreign Direct Investment, Financial Development and Economic Growth in Nigeria

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Abstract: Foreign Direct Investment (FDI) had accounted for the largest share of total capital inflows in Nigeria even though its impact on economic growth had been minimal. Findings from extant studies on the nexus between FDI and economic growth were mixed. Some studies found that FDI raised economic growth in recipient countries, while others argued the reverse. However, the contributions of FDI have been argued to depend strongly on key factors such as trade openness, human capital development and financial development in the recipient countries. Financial development was key as it provided access to external finance and better allocation of funds to domestic firms. Most studies had used bank-based measures of financial development with less attention to the market-based aspect of the financial system. Therefore, this study provided new evidence on the impacts of FDI on economic growth and examined the moderating role of financial development using both bank-based and market-based measures between 1990 and 2022. Dynamic Ordinary Least Square (DOLS) was the estimation technique. The findings showed that even though both FDI and measures of financial development had negative effects on economic growth without interaction, the interactions between FDI and financial development had a positive effect on economic growth. FDI and financial development had positive significant effects on growth when FDI was augmented with financial development irrespective of the measures of financial development. This, therefore, supports the theory that says the presence of absorptive capacities such as financial development enhances the effects of FDI on growth. Based on these findings, government through the Central Bank should embark on a policy to enhance the level of financial development in the economy. This will go a long way in achieving the positive effect of FDI on Nigeria's economic

growth.

Keywords: F Economic Growth, DI, Financial Development, GDP, Nigeria.

Introduction

The impact of foreign direct investment (FDI) on economic growth has been extensively debated in the literature. Some studies have argued that FDI has positive effects on growth (Hamadou, 2011; Asafu-Adjaye, 2000; Asteriou and Moudatsou, 2014) while others contested that the impacts of FDI on an economy are negative (Mah, 2010; Saqib et al., 2013; Borensztein et al., 1998). However, many studies that have considered the relationship between FDI and growth have centred on the channels through which FDI can influence growth. From Omran and Bolbol (2003), the channels through which FDI promotes growth include technological transfer which enhances productivity of workers; creation of employment for the host country; increase export and provision of access to new market. The extent to which FDI will support economic growth depends on certain conditions prevailing in the host countries. Prime among these conditions are sound macroeconomic management, decent infrastructure, given thresholds of human capital, trade openness and increasingly financial development (Omran and Bolbol, 2003). These factors are known as absorptive capacities in the literature because they determine to a large extent the capacity of a country to utilize FDI inflows to promote growth (Alfaro et al., 2010). The importance of financial development in enhancing the effect of FDI on economic growth cannot be overemphasized. Since FDI exerts demonstration, competition and linkages effects on domestic firms by encouraging them to upgrade their technologies and practices, the development of financial market facilitates this process by providing access to external finance and better allocates this fund to domestic firms that lack internal funds to finance these activities (Rajan and Zingales, 1998). Furthermore, a well-developed financial market determine to what extent foreign firms can borrow in order to extend their innovative activities to domestic economy (Hermes and Lensink, 2003).

At the macroeconomic level, FDI has been found to have positive effects on the economy (Iamsiraroj and Ulubasoglu, 2015). First, FDI promotes economic growth by stimulating domestic investments as a result of competition that the foreign investors will pose to local producers. Second, the competition that occurs because of the presence of foreign firms in the domestic economy improves the efficiency of the local firms which in turns yields higher labour productivity. Third, FDI inflows generate positive effect on trade balance especially if the foreign investors produce primarily for exports or to substitute for products that are hitherto imported in the domestic market (Tanascovici and Hagiu, 2013). The impacts of FDI inflows are not limited to macro level. FDI can also influence the economy at the

microeconomic level (Alfaro and Rodrigues-Clare, 2003). FDI could generate positive production externalities through backward and forward linkages. Backward linkages arise when a firm increases the demand for inputs, and this leads to introduction of new input varieties. The introduction of these inputs generates an increase in productivity of domestic producers. Forward linkages, however, take place when the introduction of new inputs lowers the production cost of certain goods, making their production profitable for domestic producers.

Although FDI can exert positive effects on the recipient economy, there are situations in which FDI could negatively affect different sectors and the economy at large. FDI could exert negative effects in a number of ways. First, the inflows of FDI could increase imports of machinery and equipment by the direct investors which has negative effect on the trade balance. This initial importation of equipment is necessary for implementation of investment (Tanascovici and Hagiu, 2013). Second, Easterly (1993), notes that policies in the form of preferential tax treatments and other concessions can distort domestic incentives. This could occur if foreign firms obtain significant benefits from host governments and the distortions caused could have large negative effect on growth. Third, Borensztein et al. (1998), argue that if FDI enters a country to overcome trade barriers, it might result in FDI inflows that do not respond to higher efficiency, but only to profit opportunities created by distorted incentives. Not until recent time, Nigeria's FDI inflows has been phenomenal. Nigeria FDI inflows was US$3.31 billion 2021 which made it the largest recipient of FDI in West Africa. However, due to excessive depreciation of Naira and unfavourable government policies, many multinationals fled the country and considered neighbouring countries like Senegal as the destination of their funds. Thus, Nigeria recorded a huge decline in 2022 as the value of its FDI inflows was US$-0.19 billion.

Furthermore, FDI has had limited effects on growth in Nigeria because the inflows are concentrated in the extractive industries which have little linkage with other sectors of the economy (Asiedu, 2002). Waliu (2017), however, argued that the development of Nigerian financial sector would enhance the impacts of FDI on Nigerian economic growth. This is because of the role of financial development in an economy as noted by Levine (2005). The development of financial market is very important because of five key financial functions it provides. First, it provides ex-ante information about possible investment; second, it monitors investments and implements corporate governance; third, it ensures trading, diversification and management of risk; fourth, it promotes mobilization and pooling of savings; and lastly, it facilitates exchange of goods and services. These functions are possible when the financial instruments, markets and intermediaries ameliorate the effects of information, enforcement and transactions costs (Levine, 2005) Against this backdrop, further enquiries are necessary in examining the relationship between FDI and economic growth in Nigeria and also if there are any role other factors such as financial development can play in enhancing the effects of FDI on growth. This, therefore, makes the following question to be

pertinent. what role does financial development plays in enhancing the impact of FDI on growth? Based on these questions, the objective of the study is to determine the moderating role of financial development in the effect of FDI on growth in Nigeria. Following the introduction, section II focuses on trend analysis of growth rate of FDI and GDI in Nigeria. While section III is the literature review, section IV focuses on the theoretical framework and methodology. Section V discusses the result and section VI is the conclusion.

2.0 Trend Analysis of Growth Rate of FDI and GDP in Nigeria

The salient feature of world economy today is the increasing spate of globalization. Most countries are well integrated and developing countries including Nigeria look up to the developed countries for foreign investment. This is because foreign investment is considered as a major source of economic growth and development for developing countries. This foreign investment such as FDI will serve to bridge the resource gap between the developing and developed countries (Yaqub et al., 2013). Thus, the role of FDI in promoting economic growth and development cannot be overemphasized. Since Nigeria has great demand for good and service and is integrated with the global economy, Nigeria is expected to attract large inflows of FDI. However, this has not been achieved when compared with the level of FDI inflows to countries in Asia (UNCTAD, 2022). A cursory look at figure 1 reveals the interconnectedness between FDI and economic growth in Nigeria. As the figure depicts, before 2000s, the growth rates of FDI and GDP moved closely together. This is because just as FDI inflows can lead to increased growth, a rise in GDP can also attract FDI into an economy. This is obvious in the figure as a fall in FDI was preceded by a decline in GDP growth rate. For example, in the figure, when the GDP fell from -1.79 per cent to -7.58 per cent between 1981 and 1983, FDI fell from 22.07 per cent in 1981 to 5 per cent in 1984. And a rise in GDP preceded the increase in FDI in 1985.

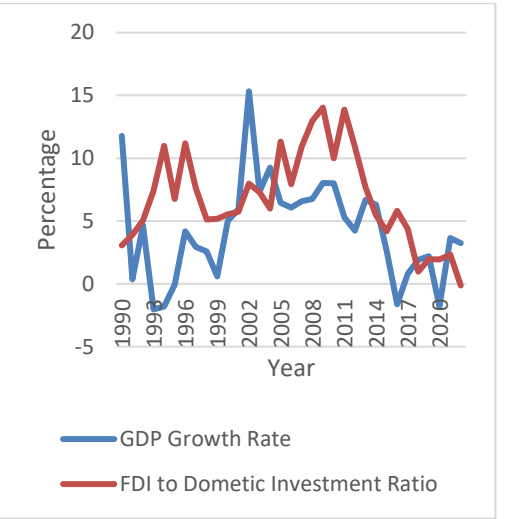

Figure 1 Nigeria's FDI and GDP Growth Rate (1990 – 2022)

Source: Author's computation from UNCTAD (2022)

However, in 1989, the increase in FDI preceded the rise in GDP. When the growth rate of FDI reached the peak of 33.34 per cent, in 1989, the rate of GDP increased to 11.63 per cent the following year. Though the rate of FDI inflows was first negative and reached the lowest of -16.11 per cent in 2005, it improved the following year and rose to the second highest value 22.10 per cent in 2008. Ever since, FDI has been declining steadily and 4.48 per cent were recorded in 2022. Moreover, the highest growth rate of GDP occurred in 2002 with the value of

14.6 per cent and ever since, has been falling with the average value of 3.94 per cent between 2007 and 2022. Another negative value of -1.56 per cent was also recorded for GDP in 2016 and this was due to fall in oil prices which reduced government revenue; weakened Nigeria currency and drove up inflation (NBS, 2016). Therefore, it can be seen from the figure that a sort of co-movement pattern exists between FDI inflows and GDP growth in Nigeria.

3.0 Literature Review

While there is a plethora of literature on the impacts of FDI on economic growth and the effects of financial development on growth, fewer studies have been done on how financial development enhances the impacts of FDI on economic growth. This section reviews theories that explain how well-developed financial market can facilitate the effect of FDI on growth. As it has been argued by various studies that the major ways through which FDI promotes growth is technology spillovers which improve the total factors of productivity (see De Mello, 1999; Balasubramanyam et al., 1996; Borensztein et al., 1998; Hermes and Lensink, 2003), certain conditions have to be present in the host country in order to maximize the technology spillovers. These conditions together determine the absorption capacity of technology spillovers of the host country. One crucial condition which the literature has been silent about is the development of the domestic financial system. This is important because when different channels through which technology spillover may take place are considered, it becomes clearer that domestic firms will need to invest when upgrading their technology.

The development of domestic financial system will determine to a larger extent whether the domestic firms will be able to realize their investment plans in case external finance from banks or stock markets is needed. Also, a well-developed financial system determines the allocative efficiency of financial resources over investment project (Hermes and Lensink, 2003). Thus, the contribution of financial system to economic growth is through two main channels. First, through mobilization of savings, the financial system increases the volume of resources available to finance investment. Second, it screens and monitors investment projects. This contributes to increasing the efficiency of the investment projects undertaken (Levine, 2000). Investments undertaken to upgrade existing or adopt new technologies are more risky than other investment projects. A well-developed financial system helps to reduce these risks. These, thereby, encourage domestic entrepreneurs to undertake the upgrading of existing technology or adopt new technologies introduced by foreign firms. Thus, financial development positively affects the speed of technological innovation, thereby enhancing economic growth (Hermes and Lensink, 2003). The more developed the domestic financial system is, the better it will be able to reduce risks associated with investment in upgrading old and adopting new technologies.

Furthermore, Alfaro and Chauvin (2017) argue that the entry of productive foreign firms triggers reallocation of resources from domestic to multinational, and from less productive to more productive domestic firms. This reallocation of resources ultimately forces the least efficient domestic firms to exit the market

and thereby boosting the host country's average productivity. In this case, financial development determines the extent of factor market reallocation and subsequent productivity effects of foreign firms. This re-affirms the importance of FDI being accompanied by complementary policies governing credit availability, barriers to entry and exit and factor reallocation. However, Soumare and Tchana (2014) stress that the relationship between FDI and financial development can be explained in terms of three phenomena. First, an increase in FDI net inflows increases the funds available in the economy and causes financial intermediation through financial markets or the banking system to boom. Second, Kholdy and Sohrabian (2008) use political economy analysis to argue more FDI reduces elites' relative power in the economy and can force the elite to adopt market-friendly regulations that strengthen the development of financial markets. Third, a relatively well-functioning financial market can attract foreign investors, who perceive such a market as a sign of vitality and openness on the part of country authorities. Therefore, a relatively well-developed stock market increases the liquidity of listed companies and may eventually reduce the cost of capital, thus rendering the country attractive to foreign investment.

Finally, Alfaro et al. (2004) and Choong et al. (2004) show that countries where financial markets are more developed are able to benefit more from FDI to increase their economic growth. The development of the domestic financial system determines to what extent foreign firms will be able to borrow in order to extend their innovative activities in the host country, which would further increase the scope for technology spillovers to domestic firms. Thus, the availability and quality of domestic financial markets may influence FDI and its impact on diffusion of technology in the host country (Hermes and Lensink, 2003). Also, Akindipe (2023) provided new evidence on the impacts of sectoral FDI (manufacturing, mining and quarry, agriculture, and service) on economic growth and examined the moderating role of financial development using both bank-based and market-based measures between 1981 and 2021. The findings showed that when financial development was not interacted with FDI, the effect of sectoral FDIs on growth was mixed and depended on the measures of financial development. However, when financial development was interacted with FDIs, FDI for all the sectors had significant positive effects on economic growth. Thus, while foreign direct investment alone decreased economic growth, its interaction with financial development exerted positive impacts on economic growth in Nigeria. Thus, the study set out to contribute to the body of knowledge by extending the measure of financial development to market-based indicators as proposed by Levine. Though Akindipe (2023) captured the role financial development using market indicator, sectoral FDIs were employed. This study deviates from that study by considering aggregate FDI in Nigeria.

4.0 Theoretical Framework

The endogenous growth model is the theoretical underpinning of this study. The model describes the situation whereby the diminishing return to capital accumulation does not occur. In this case, there is the possibility that long-term

increase in output per capita in the absence of technological progress could take place. However, there is another view that a mere accumulation of capital (even the broadest concept of capital that includes human capital) cannot guarantee sustained increase in output per capita. This is because growth in output will encounter a decline in the rate of return at a point in time in the absence of technological progress (Barro and Sala-i-Martin, 2004). Unlike Solow-Swan and Ramsey models where exogenous rate of technological progress determines the steady-state per capita growth, this theoretical framework follows the model of Barro and Sala-i-Martin (2004) where the process of technological improvement is endogenized. According to Barro and Sala-i-Martin (2004), the model with constant rate of return is specified as:

$$r = \left(\frac{L}{\eta}\right).A^{1/(1-\alpha)}.\left(\frac{1-\alpha}{\alpha}\right).\alpha^{2/(1-\alpha)} \quad (1)$$

Where α measures the proportion of capital income, A represents the level of technology, L is labour used and η the cost of R&D. From equation 1, it is possible to show the theoretical link between FDI and economic growth via financial development. In order to show this link, this study follows the technological change model of Hermes and Lensink (2003). FDI is introduced into the model by assuming that there are fixed maintenance cost which is equal to 1 and fixed setup cost (R&D costs, η). In line with Borensztein et al. (1998), the cost of R&D depends on FDI. An increase in FDI inflows lead to decline in the cost of innovation because it is cheaper to imitate than to innovate. Moreover, the tendency to imitate is higher if there are more goods produced in other countries (that is higher FDI). The cost of discovering a new good can be modelled by expressing the cost of R&D, η as a function of FDI, (F). This relationship is specified as:

$$\eta = f(F) \quad (2)$$

Where $\frac{\delta\eta}{\delta F} < 0$

The impacts of financial sector enter the model through A, the level technology. The consensus in the finance and growth literature is that financial development can promote growth through capital accumulation and technological innovation (King and Levine, 1993). So A is a function of financial development (H) and this can be written as

$$A = f(H) \quad (3)$$

Where $\frac{\delta A}{\delta H} > 0$

Substituting equation (2) and (3) into (1) yields

$$r = \left[\frac{L}{f(F)}\right].f\left(H\right)^{1/(1-\alpha)}.\left(\frac{1-\alpha}{\alpha}\right).\alpha^{2/(1-\alpha)} \quad (4)$$

Since it has been noted earlier that financial development stimulates economic growth through capital accumulation, this study follows Hermes and Lensink (2003) in describing the process of capital accumulation, which is driven by the behaviour of households. It is assumed that households maximize a standard inter-temporal utility function,

subject to the income constraint. This gives the well-known Euler condition for the growth rate of consumption:

$$g_c = (1/\theta).(r-\rho) \quad (5)$$

Where θ is the elasticity of marginal utility and ρ is the discount rate. In the steady state equilibrium, the growth rate of consumption equals the growth rate of output, g. Substituting for r in equation (5) from (4) establishes how FDI affects economic growth through financial development as:

$$g = \left(\frac{1}{\theta}\right).\left[\left(\frac{L}{f(F)}\right).f(H)^{1/(1-\alpha)}.\left(\frac{1-\alpha}{\alpha}\right).\alpha^{2/(1-\alpha)} - \rho\right] \quad (6)$$

Equation (6) shows clearly that the impacts of FDI on economic growth depend on the level of financial market development. In specific term, an increase in FDI inflow leads to lower setup cost and increase in the return on assets. This contributes to a rise in saving, and hence higher growth rate in output. The effect will be greater if there is well functioning financial system in the country. In particular, an efficient banking sector in transferring and channelling the financial resources between surplus and deficit units will encourage firms and innovators to make productive investments which will promote economic growth. Emphatically, the above model assumes that financial development influences economic growth via two channels, namely, capital accumulation and technological innovation. Through the first channel, the financial system is efficient in managing its lending deposit rate in order to pool more saving from the surplus units and redistribute it into efficient projects. Technological innovation on the other hand enables the banking system to influence growth by affecting the growth rate of invention of new production processes and goods (Romer, 1990). Thus, the greater the developments of financial sector the higher the speed of technological innovation, thereby promoting growth (Choong and Lim, 2009).

4.1 Data and Variable Description

This analysis is based on time series annual data from 1990 to 2022. The data source includes Central Bank of Nigeria Statistical bulletin, World Development Indicator (WDI), United Nation Conference on Trade and Development (UNCTAD). The focused variables are financial development, growth rate of GDP per capital (GDPC) and FDI. Financial development is measured in three ways: First, the ratio of private credit to GDP (CPS); second, the ratio of broad money, M2 to GDP (DEPTH) and lastly, the ratio of market capitalization to GDP (CAP). These indicators of financial development are justified by the work of Levine (1997) and Levine and Zervos (1998). Following Choong and Lim (2009), the set of control include labour force (LAB), government expenditure (GEXP) and gross capital formation (INV). The adoption of labour force as one of the control variables in the model follows from endogenous growth model where a country's growth rate is directly related to the stock of human capital (Hanushek and Kimko, 2000). Human capital influence the supply of ideas and new technologies through which it influences economic growth (Romer, 1990). Another key variable which influences economic growth is the

government expenditure (GEXP). Government expenditure substitutes the role of fiscal policy on growth. Various governments' spending such as on defence, infrastructure and healthcare enhances productivity of workers which in turns promote economic growth (Barro, 1991). Gross capital formation (INV) is a measure of level of physical capital of an economy. Capital formation leads to production of tangible assets (i.e. plants, tools, machinery, etc.) and intangible goods (i.e. qualitative and high standard of education, health, scientific tradition and research) in an economy. This builds an important part of GDP.

4.2 Model Specification

Following the theoretical framework in equation (6), the important role of financial development in the relationship between FDI and economic growth is established. In order to distinguish the effect of FDI from domestic investment, an augmentation of the physical capital stock is required. Therefore, this study models the impact of FDI and domestic investment on economic performance by employing the augmented Cobb-Douglas production function proposed by De Mello (1997) with the inclusion of the externality (positive or negative) effect of FDI. The empirical model is specified as:

$$\Delta y = \beta_0 + \beta_1 \Delta l + \beta_2 \Delta k_D + \beta_3 \Delta k_F + \beta_4 \Delta gexp + \beta_5 \Delta findev + \beta_6 \Delta findev * k_F + \varepsilon \quad (7)$$

Where lower case letters indicate natural logarithms and Δ is the difference operator; y represents the natural log of GDP per capita (GDPC); l is the natural log of labour force (LAB); k_D and k_F denote the natural log of domestic investment (INV) and foreign direct investment (FDI) respectively; $gexp$ is the natural log of government expenditure, $findev$ is the natural log of the measure of financial development and $findev * k_F$ is the natural log of the interactive term. β_0 to β_6 are the parameters.

Following the standard economic theory, the a-priori expectation can be specified as:

$\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$, $\beta_4 > 0$, $\beta_5 > 0$ and $\beta_6 > 0$

4.3 Methodology

4.3.1 Estimation Technique

This study follows current time series econometric practice that asserts that classical linear regression holds only when the variables are stationary (i.e. they are integrated of order (0)). Most economic variables are of higher order and do not satisfy this condition. However, when linear combination of this higher order variables results in an error term that is integrated of order (0), then such model is amenable to co-integration. The variables are therefore said to be co-integrated and OLS estimate of such co-integrating variables may be super consistent in the sense of collapsing to their true values more quickly than if the variables had been stationary (Al-Azzam, and Hawdon, 1999). Co-integrating regressions have become one of the standard tools in analyzing series that suffer from the problem of endogeneity. In the literature, there are three typical estimators that deal with this problem: the fully modified OLS estimator proposed by Phillips and Hansen (1990), Park's (1992) canonical co-integrating regression estimator, and the Dynamic Ordinary Least Squares (DOLS) by Stock and Watson (1993). These three estimators are known to be asymptotically equivalent and efficient.

This study employs DOLS estimator among the three estimators. The stock and Watson Dynamic OLS improve on OLS by coping with small sample and dynamic sources of bias. The Johansen source method, being a full information technique, is exposed to the problem that parameter estimates in one equation are affected by any misspecification in other equations (Al-Azzam and Hawdon, 1999). The Stock and Watson methods is by contrast a robust single equation approach which corrects for regressor endogeneity by the inclusion of lead and lag of first differences of the regressors and for serially corrected error by a GLS procedure. In addition, it has the same asymptotic optimality properties as the Johansen distribution. In this design, the dynamic OLS estimator performed well relative to other asymptotically efficient estimators and does not require prior co-integration test (Stock and Watson, 1993). The model is specified as:

$$GDPC_t = \beta_0 + \beta_1 FDI_t + \beta_2 DEPTH_t + \beta_3 DEPTH_t * FDI_t + \beta_4 LAB_t + \beta_5 INV_t + \beta_6 GEXP_t + \sum_{i=-j}^{i=j} \vartheta_i \Delta FDI_{t-i} + \sum_{i=-k}^{i=k} \delta_i \Delta DEPTH_{t-i} + \sum_{i=-l}^{i=l} \mu_i \Delta LAB_{t-i} + \sum_{i=-m}^{i=m} \lambda_i \Delta INV_{t-i} + \sum_{i=-n}^{i=n} \gamma_i \Delta GEXP_{t-i} + \varepsilon_t$$

DOLS 1

$$GDPC_t = \beta_0 + \beta_1 FDI_t + \beta_2 CPS_t + \beta_3 CPS_t * FDI_t + \beta_4 LAB_t + \beta_5 INV_t + \beta_6 GEXP_t + \sum_{i=-j}^{i=j} \vartheta_i \Delta FDI_{t-i} + \sum_{i=-k}^{i=k} \delta_i \Delta CPS_{t-i} + \sum_{i=-l}^{i=l} \mu_i \Delta LAB_{t-i} + \sum_{i=-m}^{i=m} \lambda_i \Delta INV_{t-i} + \sum_{i=-n}^{i=n} \gamma_i \Delta GEXP_{t-i} + \varepsilon_t$$

DOLS 2

$$GDPC_t = \beta_0 + \beta_1 FDI_t + \beta_2 CAP_t + \beta_3 CAP_t * FDI_t + \beta_4 LAB_t + \beta_5 INV_t + \beta_6 GEXP_t + \sum_{i=-j}^{i=j} \vartheta_i \Delta FDI_{t-i} + \sum_{i=-k}^{i=k} \delta_i \Delta CAP_{t-i} + \sum_{i=-l}^{i=l} \mu_i \Delta LAB_{t-i} + \sum_{i=-m}^{i=m} \lambda_i \Delta INV_{t-i} + \sum_{i=-n}^{i=n} \gamma_i \Delta GEXP_{t-i} + \varepsilon_t$$

DOLS 3

5.0 Discussion of Results

To reiterate, the main objective of this study is to examine the role of financial development in enhancing the impacts of FDI on economic growth in Nigeria. The first step of the analysis is to do the descriptive statistics of the variables which is presented in table 1. The means are very close to the medians. Investment (INV) recorded the highest mean and median values of US$62.45 and US$60.80 billion respectively. In terms of the maximum value, the highest value is also recorded for investment. However, ratio of market capitalization to GDP (CAP) has the lowest value for the minimum of all the variables in percentages. Although foreign direct investment records the highest standard deviation, the lowest standard deviation is found in growth rate of GDP per capita. For the degree of skewness for the variables, apart from labour force (LAB) which is negatively skewed, other variables have positive skewness. Most of the variables are platykurtic with exemption GDP per capita and market capitalization that are outliers.

Table 1: Summary Statistics

iable	CAP (%)	CPS (%)	DEPTH (%)	FDI (billion)	GDP (%)	GEXP ($Billion)	INV ($Billion)	LAB(Millior
an	13.48	12.59	16.55	51.24	4.32	21.00	62.45	51.83
dian	14.16	9.70	14.60	31.32	4.43	19.07	60.80	54.92
imum	38.01	22.75	24.90	142.82	15.33	50.62	83.12	71
nimum	3.30	5.81	8.46	8.54	-2.04	5.36	48.58	26
. Dev.	8.34	5.78	5.56	39.45	4.02	13.31	10.03	13.89
wness	0.73	0.29	0.12	0.86	0.44	0.90	0.40	-0.57
rtosis	3.36	1.33	1.37	2.67	3.29	2.92	1.91	2.07

Source: Authors' computation from E-view

Following the descriptive statistics, the stationarity and order of integration of the series are examined using both Dickey and Fuller (ADF) and Phillips Perron (PP). Table 2 reports the results of the unit root testing. Both ADF and PP test reveal that all the series are I(1).

Table 2: Test of Unit Root Results

ables	Augmented Dickey Fuller (ADF) Level Constant with Trend	First Constant with Trend	I(q)	Philips Perron (PP) Level Constant with Trend	First Constant with Trend	I(q)
ıet capitalization	0.9748	-5.4866***	I(1)	1.4329	-5.4943***	
ıte sector credit	0.7267	-4.8311***	I(1)	1.8985	-4.8056***	I(1)
d Money/GDP	1.0249	-5.1755***	I(1)	1.6819	-5.2366***	I(1)
ign direct investment	0.9909	2.8091***	I(1)	1.8088	-2.7193***	I(1)
growth	0.6168	-9.518***	I(1)	2.5547	-20.0374***	I(1)
ernment expenditure	1.0887	-5.0125***	I(1)	1.3237	-5.0107***	I(1)
ıtment	2.0501	-9.616***	I(1)	1.1943	-7.5256***	I(1)
ur force	2.168	-4.5798***	I(1)	2.1599	-4.6093***	I(1)

*Source: Authors' computation from E-view. Note: ***, ** and * indicate 1%, 5% and 10% significant levels respectively*

Given that all the series in the model are I(1) the co-integration regression using Stock-Watson DOLS is performed and the estimated results are presented in table 3 and 4. Table 3 presents the results of the model without the interactive terms. When there were no interactions, FDI had a negative effect on growth in all the models. Possible explanations for this could be that the absorptive capacity of Nigeria's economy is low and FDI is crowding out domestic investment. All the measure of financial development apart from the ratio of market capitalization to GDP (CAP) had negative effects on growth. This aligns with the work of Maduka and Onwuka (2013) that financial development had a significant negative influence on growth in Nigeria. However, government expenditure and investment had positive and significant effects on growth in Nigeria. The influence of labour force on growth in Nigeria was negative irrespective of the measure financial development. A possible explanation for this is that the productivity of Nigeria's labour force is low, or the labour force is excessive that diminishing marginal productivity has set in.

Table 3: Baseline Results of the Effects of FDI on Economic Growth in Nigeria

Variable	DEPTH	CAP	CPS
Constant	16.4164 (3.1403)***	7.2020 (2.2021)**	9.4179 (2.7720)**
Foreign investment	-0.7644 (-2.0614)**	-0.5656 (-0.3676)	-0.6429 (-2.1127)**
Broad money	-1.0735 (-0.0980)		
Market capitalization		-1.3832 (-0.6305)	
Private sector credit			0.2117 (0.1864)
Government expenditure	1.5719 (1.7861)*	1.7783 (3.5060)***	1.9313 (2.7083)***
Investment	2.0099 (2.3393)**	1.7063 (1.8363)*	1.04187 (0.7529)
Labour force	-0.7052 (-3.0465)***	-2.5520 (-0.9074)	-0.7868 (-0.0857)
R-squared	0.9852	0.9880	0.9851
Adjusted R-squared	0.9607	0.9681	0.9604
JB	8.4470 [0.0146]	2.7219 [0.2564]	0.3426 [0.8426]
Wald Test	201345.2 [0.0000]	5732.569 [0.0002]	65961.15 [0.0000]

*Source: Authors' computation from E-view. Note: ***, ** and * indicate 1%, 5% and 10% significant levels respectively. Figures in parentheses indicate t-statistics and square brackets P-value*

However, different results were achieved when FDI is augmented with financial development. These results are presented

in Table 4. FDI now had positive influence on growth irrespective of the measure of financial development. Also, most of the measure of financial development now had positive and significant effects on growth in Nigeria. Similarly, the effect of augmented FDI on growth is positive and significant. This shows that the present of financial development enhanced the effects of FDI on growth. This aligned with the a priori expectation and the studies by Alfaro and Chauvin (2017) and Hermes and Lensink (2003). Both government expenditure and investment had positive effect on growth. This is in line with theory which states that when government's spending increases, the marginal productivity of private investment will lead to higher growth (Easterly and Rebelo, 1993). Labour force still had negative influence on growth.

Table 4: Results of Augmented FDI with Financial Development in Nigeria

Variable	DEPTH	CAP	CPS
Constant	15.8747 (2.6899)***	3.5391 (5.8324)***	9.2503 (5.8156)***
Foreign investment	0.5351 (0.4002)	1.4596 (1.5259)	-0.8548 (-0.9475)
Broad money	1.829 (2.4142)***		
Broad money*FDI	3.3038 (2.1359)**		
Market capitalization		-1.0823 (-0.2450)	
Market capitalization*FDI		1.5241 (1.9747)*	
Private sector credit			2.1546 (2.4754)***
Private sector credit*FDI			0.6908 (3.6879)***
Government expenditure	2.2191 (1.6709)	2.2665 (0.7641)	1.7378 (2.4045)***
Investment	1.8772 (2.2853)**	2.0670 (3.1125)***	-2.2204 (-1.6533)
Labour force	-2.8215 (2.5045)***	-0.1203 (-1.7613)	-1.6131 (-0.8557)
R-squared	0.9768	0.9135	0.9823
Adjusted R-squared	0.9214	0.8775	0.9512
JB	3.1223 [0.2099]	0.2653 [0.8758]	0.9558 [0.6200]
Wald Test	338033.4 [0.0013]	331792.1 [0.0013]	2647.846 [0.0000]

*Source: Authors' computation from E-view. Note: ***, ** and * indicate 1%, 5% and 10% significant levels respectively. Figures in parentheses indicate t-statistics and square brackets P-value*

Table 5: Angel Granger Residual Based Cointegration Results

Baseline Model			
Equations	Z-Statistics	Probability Value	Conclusion
DEPTH	-16.13510	0.6528	Series are cointegrated
CPS	-	0.6523	Series are

	16.14403		cointegrated
CAP	-18.18816	0.5206	Series are cointegrated
Interactive Model			
DEPTH	-122.4855	0.0000	Series are cointegrated
CPS	-11.38303	0.8928	Series are cointegrated
CAP	-15.05881	0.7065	Series are cointegrated

Source: Authors' computation from E-view.

For robustness check, both the R-squared and Adjusted R-squared of all the equations are very high. These show that the models have high explanatory power. Moreover, Wald tests for the entire model are statistically significant. These indicate that all the variables in the models are jointly significant. The results of the Jarcque-Bera indicate that all the models are normally distributed as they are not statistically significant. Considering the results of Engel-Granger residual-based co-integration in Table 5, all the DOLS equations are statistically significant. Therefore, the null hypotheses of no co-integration are rejected and the conclusion of all the DOLS is that the series are co-integrated. All in all, even though some of the variables behave contrary to the a-priori expectation, the key variables of the model, the interactive terms for all the DOLS behave well. This supports the central idea of the study that in an economy where some level of absorptive capacities such as financial development are high, FDI has an utmost effect on the economy. Therefore, financial development plays a major role in enhancing the effect of FDI on growth.

6.0 Conclusion

In conclusion, this empirical analysis provides compelling evidence that FDI positively influences Nigeria's economic growth, particularly when interacted with financial development. The findings highlight the critical role of a well-developed financial sector in amplifying the benefits of FDI, facilitating capital flow, and enhancing the productive capacity of the economy. As FDI brings not only capital but also technology and managerial expertise, its effectiveness is significantly enhanced in a robust financial environment that supports investment activities. These results underscore the importance of implementing policies that strengthen financial institutions and markets to create a conducive environment for FDI. By fostering financial development, Nigeria can better harness the potential of foreign investments to drive sustainable economic growth. Future research should explore the specific mechanisms through which financial development enhances the impact of FDI, as well as the potential long-term effects on various sectors of the economy. Overall, this study contributes to the understanding of the interplay between FDI and financial development, providing valuable insights for policymakers aiming to optimize the benefits of foreign investment in Nigeria.

6.1 Policy Implication

The study shows that the inflows of FDI to Nigeria have been on the increase in the last two decades. However, the increase has not led to corresponding positive effect of FDI on economic growth. In the study, though FDI has a negative effect on economic growth, the

interaction of FDI with various measures of financial development has positive effect on Nigeria's economic growth. This suggests that enhancing the domestic absorptive capacity such as financial development will make FDI to have positive effects on economic growth. Based on these findings, it is therefore recommended that the Nigerian government through the Central Bank should embark on a policy to enhance the level of financial development in the economy. This will go a long way in achieving the positive effect of FDI on Nigeria's economic growth. Also, the bulk of FDI flows to Nigeria are in the oil exploration and mining activities which has a little spillover effect on the economy. Therefore, inflows of FDI to Nigeria need to be diversified from the oil sector to other sectors such as manufacturing where higher spillover effects can be achieved. In order to enhance the impact of financial development on FDI and economic growth, the Central Bank should encourage effective means of improving credit channelling and liquidity to the private firms by banks since private credit contributes to the growth of the economy. Moreover, government policies should be geared towards promoting a more competitive environment that will enhance service delivery among financial institutions. Finally, the Nigerian government should make it part of its policy objective, the need to reduce the barriers to FDI effectiveness through investment in human capital, infrastructure and productive capacity.

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